

6/20/2017

Room 207 IRIC

All present

- Included more details on the Gantt chart with specific due dates (ex wiki page etc.). milestone
- Meeting place changed to room 207 every Tuesday.
- Need to schedule instructor meeting with Russel.
- To do: Ask if client interview needs to be typed up or documented.
- Add math model as a to do list in the Gantt chart
- Refined mission statement. Still need to be reworded.
- Define spec: prioritization.
- Team contract completed, still need to refine mission statement.
- Review questions for client meeting.
- Claire will be in charge for budgeting
- Brian will be in charge as the primary client contact.
- Krissy will be in charge of creating agenda.
- Nick will be in charge of keeping paper documentation for portfolio.

6/21/2017

Room 321 IRIC

All present + Dr. Maughan and Sarah Willis

- Refine mission statement with Dr. Maughan.
- Need to include specific dates for prototype in Gaunt chart.
- Talked about client meeting.
- Set a value for the specification. Be more specific on the specification. With values.
- Need to send specs to client to verify.

6/27/2017

Room 321 IRIC

All present

- Project status layout completed by Krissy.
- Specs completer need to send to Dr. Martin for verification.
- Gantt chart completed and finalized.
- 2 gear mechanical system
- Ideas:
 1. Belt system
 2. Gear system
 3. Linear actuator system

IRIC 321

All present + Dr Beyerlein and Sarah Willis

6/28/2017

- Project calendar updated
- Present 3 prototype designs to Dr. Beyerlein.

IRIC 231

All present + Dr. Beyerlein.

- Update on change to our design (focus on producing one frequency).
- Wikipage presentation is next week (Monday, 17/07)
- Prototype of the belt system is almost done.
- Dr. Beyerlein's feedback on wikipage :
 1. Update specification: must,need....
 2. Add project learning: include 3 brainstorming ideas.
 3. Add block diagram consisting of basic components of the designs.
- Need to do in the future: Schedule a formal review with Bryn Martin.
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7/11/2017

Room 321

All present

- Project portfolio, layout completed by Krissy.
- Project portfolio: Put everything you want to print in one file to be printed tomorrow.
- Need to set up team meeting review with Bryn
 1. Email Brian on availability, preferably, Monday the 24th.
 2. Check with Bryn.
 3. Invite Dr. Maughan, Dr. Perry (Medical Robotics people)
- Update on prototype:
 1. Need to manufacture the plate and the wheel (Wheel)
 2. Still waiting on Bearing (Wheel)
 3. Still need to figure out how to change speed (Linear actuator)
 4. Working on the syringe attachment (Belt)

7/12/2017

Room 321

All present + Sarah Willis and Dr. Beyerlein

- Beyerlein feedback on wikipage
 1. Check labels on wiki page picture with Bryn Martin
 2. Still need to move picture to the background section on Wikipage.
 3. Change project learning section.
- Show and tell design.

7/18/2017

Room 321

All present

-Do math model testing on Wednesday and Thursday

-still waiting on linear actuator

-Include syringe on project learning

- Design review:

- Friday 21st
- Invite list dr. Maughan, New instructor Matt, Lucas Sass, Dr. Anderson.
- 7/19 meet 11:30 to 1 pm to finish slide.
- Testing 7/19 at 7:30 am

7/19/2017

Room 321

All present + Dr.Beyerlein and Sarah Willis

- Present slide to Dr. Beyerlein
- Meet 7/20 at 8:30 to complete slide

7/25/2017

Room 321

All present

- Claire Majors – order new linear actuator, explore interface options.
- Nick Shaber – explore more reliable testing.
- Krissy Buckler – Do research on syringe flow.
- Brian Aldrimk – syringeability travel force for syringe

8/1/2017

Room 321

All present – Claire Majors (excused absent)

- Portfolio
 1. Need to update portfolio content.
 2. Include individual research into project learning.
- Wikipage
 1. Organized into sections spring semester and fall.
 2. Krissy will update the wiki page
- Snapshot
 1. Print slides from design review

8/24/2017

Room 207

All present – all present

- Make an attachment.
- Hold on full encasement.
- Talk to Dr. Kumar for testing.

8/29/2017

Room 207

All present – all present

- Progress :
 - Linear actuator: need to explore with a higher voltage, currently the linear actuator is running slower than expected because of pwm signal.
 - Interface: all set up, needs to be coded.
- Syringe attachment: still needs to be 3d printed.
- Math model: Need to talk to Lucas for fluid flow function.

9/19/2017

Fabrication Lab IRIC All present – all present (Brian Absent)

- Show and tell for instructor meeting
 - Linear actuator code/motion
 - Interface design and concept
- Interface design and color detail
- Test Rigid system 2/ actuator and fluid in spinal column
- Get Fourier transform equation for tested data (meet with Lucas)

Instructor/team meeting

9/21/17

- Nick is working on interface diagram.
- October 2nd. mini-snapshot 4: 45 pm to 5:15 pm. Advisory Board. (need a poster)
- Still needs to order the display.
- We got data points from Lucas Sass for our Fourier Series.
- Create a timeline.
- Design Report (start outlining) ask opinion from Bryn Martin.
- Update wiki site before snapshot.
- Focus on features during the design review.
- Ideas: create an animation of the system for design review.
- Logbook collect after design review. (Logbook assessment)

10/10/2017

All present

IRIC 207

- Wednesday, Higher frequency testing, and also testing with the physical model. Make a plot.
- For testing : make a vertical pipe to see displacement.
- 11:30 meet in lab for testing (higher frequency testing and displacement)
- Redo FFT with other tools.
- Make a list to send to Bryn

10/12/2017

LIST OF IMPORTANT THINGS THAT NEEDS TO BE DONE

- **DUI**
- **POWER BUTTON.**
- **BUY POWER SUPPLY SO WE DON'T NEED TWO POWER SUPPLY. (12 volts 2 amps).**
- **PLAN ON HOW WE ARE GOING TO ARRANGE THE WHOLE SYSTEM.**
- **ORDER THE BOX FOR THE WHOLE SYSTEM FROM MCMASTERR**
- **CREATE A USER MANUAL**
- **MAKE FORMAL DOCUMENTATION OF CAPABILITY AND SEND IT TO BRYN.**
- **CREATE WIRING DIAGRAM.**

ACTION ITEMS AND TASK FOR INDIVIDUALS

- **COME UP WITH A CONCRETE PLAN FOR THE WHOLE SYSTEM, CASE (KRISSEY AND BRIAN)**
 1. **Decide and order a box for the whole system (Order by next team meeting 10/17/2017) <https://www.sparkfun.com/categories/221> as suggested by ankit or from mcmasterr**
 2. **Create a final SW of the whole case design complete with the interface etc. (by the end of the month)**
 3. **We will then sit down as a team to decide the arrangement of the internal system.**
 4. **Buy parts**
 - a. **Buy a box**
 - b. **Power supply (12 volts 2 amps)**
 - c. **Motor controller (same one)**
 - d. **Buy another rail**
 - e. **Buy solderable breadboard (<https://www.sparkfun.com/products/12070>) (we might have one at our lab , we need to check first)**

Note: we were thinking of buying another linear actuator for backup, but they would like to how long the shipping is first before deciding.

- **DUI (NICK) to be completed by the end of October.**
- **Wiring Diagram (Nick) to be completed by the 27th.**
- **Obtain heartbeat function. (Claire)**

Instructor team/meeting

10/17/2017

- Review important things from the design review
- The team decided just to buy a big enough box (Clients wants us to focus more on functionality rather than look)
- Brian and Krissy will order and decide on a box today

10/19/2017

- Need to update Wikipage.
- Decide on where to put the internal components inside the box, underneath or on the side.
- Create a wiring diagram
- Start creating an outline on the portfolio, for Bryn and Dr. Beyerlein to review.
- Buy smaller fn?

10/24/2017

- Krissy presented a new updated schedule.
- SolidWorks Model of whole component assembly is due by the end of October.
- Claire will continue on working on the function
- Nick is currently trying to get the DUE to work and also a wiring diagram.

10/31/2017

- Bought a new actuator with lower gear ratio
- buy male to male connectors
- breadboard needs to be redimensioned. (check with ordered parts)
- Do DFMEA
- Wikipage assignment
- Design concept
- fix table : krissy
- Linear actuator design
- code design
- Lcd menu :krissy
- PWM :Nick
- Arduino : Nick
- FFT : Claire
- Interface design : Brian / Krissy
- Validation : Claire

The following items need to be updated as well

Meeting minutes : Brian

Design review 2 pp slides: Nick

Design Review 2 notes : Claire

Schedule : Krissy